Ramionics Physics

Author: Ramin Khosravi
19 September 2025
Website: https://ramionics.com/

The universe is composed of spherical energy bubbles called Ramions arranged in a face-centered cubic FCC lattice.

I named these particles “Ramions”:

Rotational, Linear, Real, Absolute energy, Antimatter And Matter ION.

The FCC geometry of these particles, together with scaling parameters such as the Planck constant, the speed of light, and the electron energy, explains physical constants and interactions including quantum gravity, dark energy, dark matter, black holes, particle structure, electric charge, the fine-structure constant, the gyromagnetic factor, entanglement, and the gravitational, electromagnetic, strong, and weak interactions.

One half of the energy of each Ramion is linear and therefore generates pressure and consequently space. The second half is rotational and therefore generates time.

The first half corresponds to:

{linear, longitudinal, radial, pressure, relativistic, gravitational}

The second half corresponds to:

{rotational, angular, tangential, torque-based, indentation, electromagnetic}.

Electrical attraction is interpreted as an increase in Ramion indentation when opposite electric poles face one another. Electrical repulsion corresponds to the inverse process.

Indentation is distinct from entanglement. In entanglement, Ramions communicate through NonSpace and SuperSpace inside the black hole located at the center of every particle.

The equilibrium between the two energy halves implies that when energy increases by a factor of N, the radius and electric charge also increase by a factor of N, the energy density, pressure, and speed of light decrease by a factor of N^2, the Planck constant $\hbar = E.r/c$ increases by a factor of N^4, and the gravitational constant decreases by a factor of N^8.

FCC Geometrical Coefficients

Number of Ramions in layer n:

(1) $L(n) = 10n^2 + 2$, $L(0) = 1$

Cumulative number of Ramions up to layer n:

(2) $T(n) = (10n^3 + 15n^2 + 11n + 3)/3$

(3) π = Chudnovsky algorithm

; $\pi = 3.14159265358979323846264338327950288419716939937511$

(4) $\varphi = \pi/(3.\sqrt{2})$

; $\varphi = 0.74048048969306091$

(5) $\gamma = (10/(24.\varphi))^{1/3}$

; $\gamma = 0.82557850950146439$

(6) $\beta = (10/8)/(2.\gamma^2)$

; $\beta = 0.91698716849356754$

Genetic Code and Number of Ramions in a Wing

The genetic code of the electron, which before separation from the common hole represented the ratio between the particle energy and radius relative to the reference Ramion E_s, continues after separation to determine the number of Ramions on the surface of the particle central black hole and therefore determines the layer number.

(7) $\mathring{N}_e = \mathring{N} = 4^0\ 4\ 4\ 6\ 6\ 4\ 4\ 2\ 2$

; $\mathring{N} = 36864$

Inside the particle genetic code, one factor 2 corresponds to excess energy and another factor 2 corresponds to particle charging. Each factor 4 simultaneously increases the strong-layer exponent s and the packet exponent p. The strong layer is defined as layer number $2^s - 1$ corresponding to the explosion boundary of Ramions and the transition into matter through spatial distribution. The packet exponent defines the number of baryons inside the packet as $2^p - 1$. Each factor 6 corresponds to one Mersenne retreat

step used to accumulate energy and jump to the next Mersenne number. For the electron, the final strong layer is 127 and the packet particle count is 31.

The most stable configuration of a packet with exponent p is:

(8) 2^{p-1}up + $(2^{p-2} + 1)$down + $(2^{p-2} - 1)$electron

At later stages this configuration forms one neutron and $(2^{p-2} - 1)$ electron–proton pairs. Consequently, the most common particle family, namely electron-like families, generates a proton-to-neutron ratio of 7.

The number of Ramionic energy units in each wing of electron-like particles after separation from the common hole, namely the ratio of particle energy-radius relative to the reference Ramion E_s, is:

(9) $N = \text{Ceil10}((\pi^2/10).\mathring{N})$

; $N = 36390$

General η relation:

(10) $\eta_{(w)} = (\sqrt{(1 - 1/(w.N))})^p$

Number of wings whose electrical or gravitational potential energy is calculated:

(11) $w \in \{½,1,6,12,24\}$

Exponent of η depending on whether q^2 or q is used for energy calculation, or whether the energy factor is used to calculate q^2 or q:

(12) $p \in \{-2,-1,1,2\}$

Calculation of α_e . Physical constants remain fixed for every particle family.

(13) $\alpha_e = \beta/(40\pi.\eta^2)$

; $\eta^2 = 1 - 1/N$

; $\alpha_e \approx 0.0072973525626895113$

; $\alpha_e^{-1} \approx 137.03599920783327$

; $\alpha_{ex}^{-1} = 137.035999177000001 \pm 0.000000021$

; $\Delta\alpha_e^{-1} \approx +1.47\sigma$

Calculation of g_e

Boundary black-hole layer number relative to the center in the 12+9 force–torque equilibrium model:

(14) $n = \mathring{N}/(18\pi)$

; $n \approx 651.89864690440334$

The black-hole boundary is counted to the half-layer, therefore the nearest half-integer boundary is:

(15) $n = 651.5$

Continuity correction of the layers:

(16) $n = 651 + 0.5.(\mathring{N}/N)^{1.5}$

; $n \approx 651.50980091083716$

Approximate layer radius:

(17) $R_n = 2\gamma nr$

; $R_n \approx 1075.7449807231294r$

Exact equipotential radius, where if it were identical to R_n the 12+9 relation would become exact:

(18) $R_s = r.\sqrt{(1 + 4n + 4\gamma^2(n^2 - 1))}$

; $R_s \approx 1076.9547699115076r$

Radius ratio:

(19) $x_n = R_s/R_n$

; $x_n = \sqrt{(1 + 4n + 4\gamma^2(n^2 - 1))}/(2\gamma n)$

; $x_n \approx 1.0011246059336154$

η coefficients inside the potential energy:

(20) $\eta_{12} = \sqrt{(1 - 1/(12N))}$

; $\eta_{12} \approx 0.9999988549961385$

(21) $\eta_1 = \sqrt{(1 - 1/N)}$

; $\eta_1 \approx 0.9999862598671323$

(22) $E_{03} = 24/(24 - 9.\eta_{12}/(\eta_1.x_n) - 12.\eta_{12}^2.x_n)$

; $E_{03} \approx 8.0092664731787568$

(23) $g_e = (32/9)/(E_{03}.10/3 - (E_{03} - 1).32/9)$

; $g_e \approx 2.0023193047666132$

; $g_{ex} = 2.00231930436256 \pm 3.5E{-}13$

; $\Delta g_e \approx +1.15E{+}03\sigma$

The remaining discrepancy originates from the discrepancy inside α itself.

(24) $\eta_a = \sqrt{(\alpha/\alpha_x)}$

; $\eta_a \approx 0.99999999988749932$

; $\eta_a^{-1} \approx 1.0000000001125007$

Calculation of the Gravitational Constant

The constant G_s represents the structural energy, namely the internal repulsion inside the Ramion:

(25) $G_s = 36.I\omega.\hbar.(c.\varphi)^5/(E_{03}^2.E_e^2.N^2)$

; $G_s \approx 3.594511494744803E{+}24$

Geometrical factor of the gravitational coefficient:

(26) $C\boldsymbol{g} = (5/6.\beta)^2.\beta.\varphi$

; $C\boldsymbol{g} \approx 0.39649791124107175$

Projection of gravity from a Ramion into one wing of the 12-wing model and from there into outer space:

(27) $G_e = G_s.C\mathit{g}.144/(N^8.\eta_1^2)$

; $G_e \approx 6.6741930217915675E{-}11$

; $G_{ex} = 6.67430E{-}11$

; $\Delta G \approx -0.71\sigma$

Calculation of E_s, r_s, and ρ_s

Parameters:

(28) $\hbar_e = 1.05457181764615647E{-}34J.s$

(29) $c = 299792458m/s$

(30) $E_e = 8.18710577688533997E{-}14J$

In this calculation the base value E_{03} without η_a has been used:

(31) $E_{03} = 24/(24 - 9.\eta_{12}/(\eta_1.x_n) - 12.\eta_{12}^2.x_n)$

Ramion energy:

(32) $E_s = E_{03}.E_e/(12.N)$

; $E_s = 1.50161930500998148E{-}18J$

Conversion to electron-volts:

(33) $1eV = 1.602176634E{-}19J$

(34) $E_s = 9.37217613259493052eV$

Ramion Planck constant:

(35) $\hbar_s = \hbar_e/((10/3).N^4)$

; $\hbar_s = 1.80413567129387709E{-}53J.s$

Ramion speed of light:

(36) $c_s = c.\varphi$

; $c_s = 2.21990466106126398E{+}08m/s$

Ramion radius:

(37) $r_s = \hbar_s.c_s/E_s$

; $r_s = 2.66712686266746452E{-}27m$

Electron radius:

(38) $r_e = N.r_s$

; $r_e = 9.70557425604710891E{-}23m$

Ramion energy density:

(39) $\rho_s = E_s/((4/3).\pi.r_s^3)$

; $\rho_s = 1.88947092367470660E{+}61J/m^3$

Space energy density:

(40) $\rho_{(space)} = \varphi.\rho_s$

; $\rho_{(space)} = 1.39910591223502782E{+}61J/m^3$

Calculation of the Hubble Constant

Friedmann relation:

(41) $H^2 = 8.\pi.G.\rho/3$

In this relation, ρ is the mass density, not the energy density. Therefore, if the energy density is expressed in J/m^3, it must be divided by c^2.

For the Ramion:

(42) $\rho_m = \rho_s/c^2$

(43) $\rho_m = 2.10134456720664473E{+}44kg/m^3$

(44) $H_s^2 = 8.\pi.G_s.\rho_m/3$

(45) $H_s = 7.956653698725423E34s^{-1}$

Ramion Hubble radius:

(46) $R_{(}H_{s)} = c_s/H_s$

(47) $R_{(}H_{s)} = 2.789981163539551E{-}27m$

(48) $G \propto 1/N^8$

From the Friedmann relation:

(49) $H^2 \propto G.\rho$

The expansion of space belongs to the Ramions themselves, but we and our instruments belong to the electron family and therefore experience time more slowly. Consequently, the Hubble constant must also be projected into our observational frame. Since the density is also mapped proportionally to N^{-16}:

(50) $\rho \propto 1/N^{16}$

Therefore:

(51) $H^2 \propto 1/N^{24}$

And consequently:

(52) $H \propto 1/N^{12}$

Furthermore, φ enters the relation through the FCC geometrical-longitudinal mapping, while β enters through the effective FCC network pressure.

(53) $H_0 \approx \gamma.H_s/(N^{12}.\varphi^{16}.\sqrt{\beta})$

(54) $H_s = 7.956653698725423E34s^{-1}$

(55) $H_0 \approx 73.5482745161497km/s/Mpc$

Observed value:

(56) $H_{(}local_{)} = 73.04 \pm 1.04km/s/Mpc$

Difference:

(57) $\Delta \approx +0.49\sigma$

In the Hubble-tension problem, the value calculated using the Planck satellite lacks a factor β^{-1} required to recover the correct value. This missing factor originates from neglecting the discontinuity of the co-three-space structure:

(58) $H_{(local)} = H_{(Planck)}/\beta$

; $H_{(local)} = 73.5021094135167 km/s/Mpc$

With this simple correction, the Planck satellite value 73.50 becomes even closer to the Ramionic calculation 73.54 than to the direct local observations 73.04.

The dark-matter density is interpreted as the NonSpace volume fraction of SuperSpace:

(59) $\Omega_{(dark)} = 1 - \varphi$

; $\Omega_{(dark)} = 25.95195103069391\%$

The dark-matter effect at short distances originates from the exponential factor inside the gravitational-potential relation, whose integral must be limited by the energy converted into mass. At larger distances, the effect originates from cosmic expansion and from the motion of the matter-energy distribution pattern, which reduces the radius relative to the calculated value and therefore creates the appearance of stronger gravity.

Particle Packet Energy Calculations as Functions of Packet Exponent p and Strong-Layer Exponent s

For every parameter pair N,p, the total number of packet particles is first calculated:

(60) $2^p - 1$

The composition is then written as:

(61) $n_{2/3} = 2^{p-1} - 1$

; $n_{1/3} = 2^{p-2} + 1$

; $n_{3/3} = 2^{p-2} - 1$

The Ramionic energy of each particle is:

(62) $E_{2/3} = 12N.12/24$

; $E_{1/3} = 12N.19/24$

; $E_{3/3} = 12N.3/24$

The total packet energy is therefore:

(63) $E_p = n_{2/3}E_{2/3} + n_{1/3}E_{1/3} + n_{3/3}E_{3/3}$

The smallest strong layer satisfying:

(64) $T(2^s - 1) \geq E_p$

is selected as the corresponding stable strong layer. The excess-energy percentage is then calculated as:

(65) $\Delta = (T(2^s - 1) - E_p)/E_p.100$

Electron, Muon, and Tau Generations

In the Ramionic model, the observed mass inside QED/QCD appears proportional to the square of the effective charge structure of the particle, because the w structure and the charge distribution are assumed to be similar to those of the electron. Therefore:

(66) $E_x \propto q^2$

To extract the true charge structure or the number of ring Ramions, the square root of the mass ratios must be taken:

(67) $q \propto \sqrt{E_x}$

For the muon, the mass ratio relative to the electron is:

(68) $E_{mx}/E_e \approx 206.768281925526$

(69) $\sqrt{(E_{mx}/E_e)} \approx 14.3794388589359 \approx 2^7/9$

And since:

(70) $\mathring{N}_e = 4^5.6^2 = 2^{10}.3^2$

(71) $\mathring{N}_m = \mathring{N}_e.2^7/9 = 2^{17} = 131072$

For the tau, the mass ratio relative to the muon is:

(72) $E_{tx}/E_{mx} \approx 16.8157217982823$

(73) $\sqrt{(E_{tx}/E_{mx})} \approx 4.10069771170412 \approx 2^2$

(74) $\mathring{N}_t = \mathring{N}_m.2^2 = 2^{19} = 524288$

These two numbers, 2^{17} and 2^{19}, show that the factor 6 associated with the Mersenne retreat of the electron packet has disappeared in the genetic codes of the muon and tau.

Except for one factor 2 associated with particle charging, the primary growth paths of the particles were 2^{16} and 2^{18}.

For the electron:

(75) $\mathring{N}_e = 4^0.4^4.6^2.2.2 \rightarrow p_e = 5$

(76) $Packet_e = 13273920 \rightarrow s_e = 7$

(77) $\Delta E_e/Packet_e.100 \approx +0.607957434991127\%$

Stable packet selection algorithm:

(78) $p \in Prime$

(79) $2^p - 1 \in MersennePrime$

For the muon:

(80) $N_{mex} = N_{mx}/N_{ex} = \sqrt{(E_{mx}/E_e)}$

; $N_{mex} \approx 14.3794388589359 \approx 2^7/9$

(81) $N_{mx} = Ceil10(14.3794388589359.36390)$

; $N_{mx} = 523270$

(82) $n_{2/3} = 2^{p-1} - 1$, $n_{1/3} = 2^{p-2} + 1$, $n_{3/3} = 2^{p-2} - 1$

(83) $E_{2/3} = 12N.12/24$, $E_{1/3} = 12N.19/24$, $E_{3/3} = 12N.3/24$

First configuration:

(84) $\mathring{N}_m = 4^0.4^8.2 \rightarrow p_m = 9$ ✗

Second configuration:

(85) $\mathring{N}_m = 4^0.4^5.8^2.2 \rightarrow p_m = 6$ ✗

Third configuration:

(86) $\mathring{N}_m = 4^0.4^2.8^4.2 \rightarrow p_m = 3$

(87) $Packet_m = 23617845 \rightarrow ns_m = 192$

(88) $\Delta E_m/Packet_m.100 \approx +0.780757906631181\%$

For the tau:

(89) $N_{tex} = N_{tx}/N_{mx} = \sqrt{(E_{tx}/E_{mx})}$

; $N_{tex} \approx 4.10069771170412 \approx 2^2$

(90) $N_{tx} = Ceil10(4.10069771170412.523270)$

; $N_{tx} = 2145860$

First configuration:

(91) $\mathring{N}_t = 4^0.4^9.2 \rightarrow p_t = 10$ ✗

Second configuration:

(92) $\mathring{N}_t = 4^0.4^6.8^2.2 \rightarrow p_t = 7$

(93) $Packet_t = 1579470620 \rightarrow ns_t = 768$

(94) $\Delta E_t/Packet_t.100 \approx +0.853492770667535\%$

Third configuration:

(95) $\mathring{N}_t = 4^0.4^3.8^4.2 \rightarrow p_t = 4$ ✗

Fourth configuration:

(96) $\mathring{N}_t = 4^0.8^6.2 \rightarrow p_t = 1$ ✗

Therefore, the generation number of the electron family is represented as 7/5, while the muon and tau families are represented respectively as 192//3 and 768//7. The symbol // denotes the direct layer number rather than the exponent of a stable Mersenne layer.

Consequently, the electron genetic code and the stable N values depend only on the three-dimensional structure of space itself, implying that the same particle families and elemental structures should appear in every three-dimensional universe.